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[Science Abstracts Series A
January - June 1986

Subject Index (M - Z)

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The Institution of Electrical Engineers

SIX-MONTHLY INDEXES TO PHYSICS ABSTRACTS

Twice a year as part of their subscription to Physics Abstracts, subscribers receive cumulative indexes for the periods January-June and July-December. Each index is in two parts—a Subject Index, and an Author Index which comprises personal and corporate author indexes, and indexes to conferences, book titles, and bibliographies. The List of Journals and other Serial Sources abstracted by INSPEC is also included with the July-December issue of the Author Index, while the supplement to that List is included with the January-June issue.

Cumulative indexes for earlier years are also available: for details please see the inside back cover.

Subject index

The Subject index provides an alphabetical subject key to the articles included in the abstracts journal. Some general guidance on its use is given below:

1. Look in the index for the name of the specific subject in which you are interested. In most cases this name will be a heading in the index and you will find relevant articles listed under it. The majority of the subject headings fall into the following categories: property, phenomenon, substance or named objects, instrument, device, theory, method, process, application, event.
2. Occasionally you will be directed from the subject heading chosen to a different heading under which the relevant or additional articles are listed.
3. If you do not find the subject heading you first chose, try a more general heading.
4. Each entry under the heading relates to an article appearing in the abstracts journal and gives the serial number of that article in the journal preceded by the last digit of the current year, e.g. 6-12345; i.e. Abstract number 12345 in the abstracts journal for 1986.

The language of the article, if it is not English, is also indicated, e.g. light-pulse wave form monitoring with 500ps resoln. (Japanese) 6-49850.

Each entry starts with a Keyword or Keyphrase considered to be most relevant to the heading. On sorting these Keywords, the qualifying prefixes are usually ignored, (e.g. α -brass, 5-sulphosalicylic, 31 Cygni, n-Ge are sorted under brass, sulphosalicylic, Cygni, respectively).

There are three main Keyword lists: alphabetical A-Z, elementary particles, and chemical symbols (organic substances are written and not given as chemical formula). More than one Keyword list may be present under each subject heading.

For document on, say, 'photoemission of germanium' at least two access points 'photoemission' and 'germanium' are provided. Under the heading 'photoemission' the Keyword will be 'Ge' and under 'germanium' the Keyword will be 'photoemission'.

In a case like this, it is advisable and quicker to use the heading 'photoemission' and go straight to the chemical symbol list for 'Ge'.

Intermetallic compounds are indexed under the appropriate alloy headings. The chemical formula is used as Keyword. However, it is important to realise in searching the chemical symbol list that, at present, alloys and intermetallic compounds are sorted separately. For example FeCo is sorted at the end of the Fe- list e.g. Fe-Al,... Fe-Co,... Fe-Si,... Fe-Si-B,... FeCo,... FeSi and so on in this order.

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Physics Abstracts

Science Abstracts Series A

January–June 1986

Subject Index (M–Z)

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Abbreviations and Acronyms

Subject index (M–Z)

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Abbreviations and Acronyms

Abbreviations and acronyms are used in the modifiers in all INSPEC Cumulative Subject Indexes. Individual terms should be readily understood in the context of the subject headings. **Inorganic substances** are usually given by their chemical formulae. Iron and aluminium garnets appear in the formulae lists as MIG and MAG (where M is metal element, e.g. YIG and YAG); $(\text{Pb},\text{La})(\text{Zr},\text{Ti})\text{O}_3$ and $\text{Pb}(\text{Zr},\text{Ti})\text{O}_3$ appear as PLZT and PZT. **Organic substances** including **liquid crystals** are not given as formulae but common abbreviations are used.

1D	one-dimensional	AWGN	additive white Gaussian noise
2D	two-dimensional		
3D	three-dimensional	BARITT	barrier injection transit time
A/D	analogue-to-digital	BBD	bucket-brigade device
ABS resin	acrylonitrile-butadiene-styrene resin	BBEA	4-butoxybenzal-4'-ethylaniline
AC	alternating current	BBGKY	Bogoliubov-Born-Green-Kirkwood-Yvon
ACV	air cushion vehicle		
ADC	analogue-to-digital conversion	BCC	body centred cubic
ADM	adaptive delta modulation	BCD	binary-coded decimal
ADP	administrative data processing	BCH	Bose-Chadhuri-Hocquenghem
ADPCM	adaptive differential pulse code modulation	BCS	Bardeen-Cooper-Schrieffer
AE	acoustic emission	BCT	body centred tetragonal
AEC	atomic electron correlation(s)	BEBC	Big European Bubble Chamber
AES	Auger electron spectra(oscopy)	BEM	boundary element method
AF	audio frequency	BEPC	Beijing Electron Positron Collider
AFC	automatic frequency control	BER	bit error rate
AFL	abstract family of languages	BFL	buffered FET logic
AFMR	antiferromagnetic resonance	BFO	beat-frequency oscillator
AFR	away from reactor (spent fuel storage)	BH	buried heterostructure
AGC	automatic gain control	BIL	buried injection logic
AGR	advanced gas-cooled reactor	BIMOS	bipolar/metal-oxide-semiconductor
AGS	alternating gradient synchrotron	BPSK	binary phase shift keying
AGV	automatic guided vehicle	BRD	W Germany
AI	artificial intelligence	BRET	Breeder Reprocessing Engineering Test
ALARA	as low as reasonably achievable	BVP	boundary value problem
ALU	arithmetic logic unit	BWIP	Basalt Waste Isolation Project
AM	amplitude modulation or air mass number	BWO	backward wave oscillator
		BWR	boiling water reactor
		BWT	backward wave tube
ANOVA	analysis of variance		
APACHE	Accelerator for Physics and Chemistry of Heavy Elements	C-V	capacitance-voltage
APC	adaptive predictive coding	C ²	command and control
APCM	adaptive pulse code modulation	C ³	command control communications or cleaved coupled cavity
APCVD	atmospheric pressure chemical vapour deposition	C ³ I	command control communications and intelligence
APD	avalanche photodiode	C ³ L	complementary constant current logic
APR	acoustic paramagnetic resonance	CAD	computer aided design
APRFR	Army Pulsed Radiation Facility Reactor	CADD	computer aided draughting and design
APS	appearance potential spectra(oscopy)	CAE	computer aided engineering
APW	augmented plane wave	CAI	computer assisted instruction
ARMA	autoregressive moving average	CAM	computer aided manufacturing
ARQ	automatic repeat request	CANDU	Canadian deuterium uranium
ARUPS	angular resolved ultraviolet photoelectron spectra	CAR	computer aided retrieval
ASCII	American standard code for information interchange	CARS	coherent antiStokes Raman scattering (spectra)
ASK	amplitude shift keying	CATT	controlled avalanche transit transistor
ATC	air traffic control	CATV	community antenna television or cable television
ATE	automatic test equipment	CB	citizens' band
ATF	Advanced Toroidal Facility	CBI	computer based instruction
ATM	automatic teller machine or Axilrod-Teller-Moto	CBOOA	cyanobenzylidene octyloxyaniline
ATR	attenuated total reflection	CBT	computer based training
ATWS	anticipated transients without scram	CCBA	coupled channel Born approximation
AVC	automatic volume control	CCFL	counter current flow limiting (LOCA phenomenon)

CCD	charge-coupled device	CRBR	Clinch River Breeder Reactor project
CCIR	International Radio Consultative Committee	CRDA	control rod drop accident
CCITT	International Telephone & Telegraph Consultative Committee	CRO	cathode ray oscilloscope
CCL	capacitor-coupled logic	CRSR	coherent resonant Stokes rotation
CCTF	Cylindrical Core Test Facility	CRT	cathode ray tube
CCTR	Culham Conceptual Tokamak Reactor	CS	coupled states
CCTV	closed circuit television	CSM	continuous slowing down models
CD	compact disc	CSMA	carrier sense multiple access
CD-ROM	compact disc ROM	CSMA/CD	carrier sense multiple access with collision detection
CDFR	Commercial Demonstration Fast Reactor	CSP	channel substrate planar
CDI	collector diffusion isolation	CSRS	coherent Stokes-Raman spectra (oscopy)
CDM	code division multiplexing	CSSB/AM	companded single sideband amplitude modulation
CDMA	code division multiple access	CT	computerised tomography
CDW	charge-density wave	CTD	charge transfer device
CECL	cascode-emitter coupled logic	CTL	complementary-transistor logic
CEGB	Central Electricity Generating Board	CTR	controlled thermonuclear reactor
CEM	channel electron multiplier	CVD	chemical vapour deposition
CEPA	coupled electron pair approximation	CVSDM	continuously variable slope delta modulation
CERN	Conseil Européen pour la Recherche Nucléaire	CW	continuous wave
CESR	conduction electron spin resonance	D/A	digital-to-analogue
CFG	context free grammar	DAC	digital-to-analogue conversion
CFL	context free language	DAD	digital audio disc
CFSK	coherent frequency shift keying	DAMA	demand assigned multiple access
CGTO	contracted Gaussian-type orbital	DASD	direct access storage device
CHF	coupled Hartree-Fock	DBMS	database management system
CI	configuration interaction	DBR	distributed Bragg reflector
CID	charge injection device	DBS	direct broadcasting by satellite
CIDEP	chemically induced dynamical electron polarisation	DC	direct current
CIDNP	chemically induced dynamical nuclear polarisation	DCFL	direct-coupled FET logic
CIEH	charge iterated extended Huckel	DCTL	direct-coupled transistor logic
CIHY	configuration interaction Hylleras	DDC	direct digital control
CIM	computer integrated manufacturing or constituent interchange model	DDL	diode-diode logic
CMI	computer managed instruction	DDR	E Germany
CML	current-mode logic	DECENT	distribution of exact classical energy transfer
CMOS	complementary metal oxide semiconductor	DESY	Deutsches Electron Synchrotron
CNC	computerised numerical control	DF	Dirac-Fock
CNDO	complete neglect of differential overlap	DFB	distributed feedback
COC	cholesteryl oleyl carbonate	DFE	decision feedback equaliser
COM	computer output to microform (fiche or film)	DFT	discrete Fourier transform
COMFET	conductivity-modulated field effect transistor	DH	double heterostructure
COOB	4,4'-cyano-octyloxy-biphenyl	DIL	dual-in-line
COVA	computer code validation	DIP	dual in-line package
CP	charge, parity	DITE	Diverter in Torus Experiment
CPA	coherent potential approximation or critical path analysis	DLTS	deep level transient spectra (oscopy)
CPFSK	continuous phase frequency shift keying	DM	delta modulation
CPM	continuous phase modulation or critical path method	DMA	direct memory access
CPSK	coherent phase shift keying	DMM	digital multimeter
CPT	charge, parity, time	DMOS	double-diffused metal-oxide-semiconductor
CPU	central processing unit	DMSO	dimethylsulphoxide
		DNA	digital network architecture or deoxyribonucleic acid
		DNMR	double nuclear magnetic resonance
		DOBAMBC	p-decyloxybenzylidene p'-amino 2-methyl butyl cinnamate
		DoD	Department of Defense (USA)
		DOPSK	differential offset phase shift keying

DORIS	Dopple-Ring-Speicher	EFM	extended Flygare method
DOS	disc operating system	EFT	electronic funds transfer
DOVETT	double velocity transit time	EHD	electrohydrodynamics
DP	data processing	EHF	extremely high frequency
DPCM	differential pulse code modulation	EHP	electron-hole potential method
DPDA	deterministic pushdown automaton	EHT	extra high tension or extended
DPPH	diphenylpicrylhydrazyl		Huckel theory
DPSK	differential phase shift keying	EHV	extra high voltage
DQPSK	differential quadrature phase shift keying	EIRP	equivalent isotropically radiated power
DRAM	dynamic random access memory	ELDOR	electron electron double resonance
DS-SSMA	direct sequence-spread spectrum multiple access	ELF	extremely low frequency
DSAM	Doppler shift attenuation method	EM	electromagnetic
DSB	double subband	EMC	electromagnetic compatibility or European Muon Collaboration
DSC	differential scanning calorimetry	EMF	electromotive force
DSI	digital speech interpolation	EMG	electromyography (-gram)
DSP	digital signal processor	EMI	electromagnetic interference
DSS	decision support system	EMP	electromagnetic pulse
DTA	differential thermal analysis	ENDOR	electron nuclear double resonance
DTL	diode transistor logic	ENG	electronic newsgathering
DTPP	Demonstration Tokamak Power Plant	EOF	end of file
DTU	dual topological unitarisation	EPEN	empirical potential energy function based on interactions of electrons and nuclei
DV-X α	discrete variational X α method	EPMA	electron probe microanalysis
DVM	digital voltmeter	EPR	electron paramagnetic resonance
DWBA	distorted wave Born approximation	EPRI	Electric Power Research Institute
DWIA	distorted wave impulse approximation	EPROM	erasable programmable read-only-memory
E1,E2	electric dipole, quadrupole	ERG	electroretinography (-gram)
E ² PROM	electrically erasable programmable read-only-memory	ESA	European Space Agency
EAROM	electrically alterable read-only-memory	ESCA	electron spectroscopy for chemical analysis
EAS	extensive air shower	ESCAR	Experimental Superconducting Accelerating Ring
EAX	electronic automatic exchange	ESD	electrostatic discharge or electron stimulated desorption
EB	exponential Born	ESF	engineered safety features
EBBA	4-ethoxybenzylidene-4'-n-butylaniline	ESFI	epitaxial silicon film on insulator
EBIC	electron beam induced current(s)	ESS	electronic switching system
EBR	experimental breeder reactor	EUV	extreme ultraviolet
EBT	Elmo Bumpy Torus	EW	electronic warfare
ECC	emergency core cooling	EX-OR	exclusive-OR (logic)
ECCM	electronic counter-counter measures	EXAFS	extended X-ray absorption fine structure
ECCS	emergency core cooling system		
ECELR	Epithermal Critical Experiment Laboratory Reactor	FAMOS	floating gate avalanche metal-oxide-semiconductor
ECG	electrocardiography (-gram)	FBR	fast breeder reactor
ECL	emitter coupled logic	FCC	face centred cubic
ECM	electronic countermeasures	FCI	fuel coolant interaction
ECRH	electron cyclotron resonance heating	FDM	frequency division multiplex(ing)
EDA	ethylene diamine	FDMA	frequency division multiple access
EDAX	energy dispersive X-ray analysis	FDNC	frequency dependent negative conductance
EDP	electronic data processing	FDNR	frequency dependent negative resistance
EDTA	ethylene diamine tetra-acetic acid	FECL	feedback ECL
EDW	electron density wave	FED	Fusion Engineering Device (USA)
EDX	energy dispersive X-ray	FEDC	Fusion Engineering Device Centre
EEBAC	ethyl-4-(4'-ethoxy-benzylidene-amino) cinnamate	FEM	field emission microscopy or finite element method
EEG	electroencephalography (-gram)	FER	Fusion Experimental Reactor (Japan)
EELS	electron energy loss spectra(oscropy)		
EEPROM	electrically erasable programmable read-only-memory		
EFG	edge-defined film fed growth		
EFL	emitter-follower logic or emitter-function logic		

FET	field effect transistor	HCP	hexagonal close packed
FFHR	fusion-fission hybrid reactor	HDLC	high level data link control
FFT	fast Fourier transform	HDTV	high definition television
FFTF	Fast Flux Test Facility	HEED	high energy electron diffraction
FHNC	Fermi hypernetted chain	HEMP	high altitude electromagnetic pulse
FIFO	first in first out	HEMT	high electron mobility transistor
FIM	field ion microscopy	HEU	highly enriched uranium (93% U235)
FIMOS	floating gate ionisation injection metal-oxide-semiconductor	HEU/Th	highly enriched U/Th fuels
FIR	far infrared or finite impulse response	HEXFET	hexagonal MOSFET
FLIR	forward looking infra-red	HF	high frequency or Hartree-Fock
FM	frequency modulation	HFB	Hartree-Fock-Bogoliubov
FMIT	Fusion Materials Irradiation Test Facility	HFEF	Hot Fuel Examination Facility
FMR	ferromagnetic resonance	HFIR	high flux isotope reactor
FMS	flexible manufacturing systems	HFITR	High Field Ignition Test Reactor
FMSR	Fast Mixed Spectrum Reactor	HFO	Hartree-Fock-Overhauser
FPC	fusion power core	HFS	Hartree-Fock-Slater or hyperfine structure
FPLA	field programmable logic array	HGMS	high gradient magnetic separation
FPT	finite perturbation theory	HIXE	heavy ion induced X-ray emission
FRMR	field reversed mirror reactor	HJBT	heterojunction bipolar transistor
FSDE	fission suppressed direct enrichment (breeder blanket)	HJFET	heterojunction field effect transistor
FSK	frequency-shift keying	HLL	high level language
FSGO	floating spherical Gaussian orbitals	HLLW	high level liquid waste
FTR	Fast Test Reactor	HLW	high level waste
FWHM	full width half maximum	HMO	Huckel molecular orbitals
GAMBIT	gate modulated bipolar transistor	HMOS	high-performance metal-oxide-semiconductor
GANIL	Grand Accelérateur National a Ions Lourds	HMTSeF	hexamethylenetetraselenafulvalene (-inium)
GCFR	gas-cooled fast breeder reactor	HMTTF	hexamethyltetrathiofulvalene (-inium)
GCHWR	gas cooled heavy water moderated reactor	HOAB	heptyloxyazoxybenzene
GCM	generator coordinate method	HOBHA	p-n-heptyloxy-benzylidene-p-n-heptylaniline
GDR	giant dipole resonance	HOMO	highest occupied molecular orbitals
GETR	General Electric Test Reactor	HSLA	high strength low alloy (steel)
GHF-NO-CI	generalised Hartree-Fock/natural orbital/configuration interactions	HT	high tension
GIAO	gauge-invariant atomic orbitals	HTGR	high temperature gas-cooled reactor
GKS	Graphical Kernel System	HTGR SC/C	HTGR steam cycle cogeneration
GMR	giant monopole resonance	HV	high voltage
GO	Gaussian orbitals	HVAC	heating, ventilation and air conditioning
GOO	generalised Overhauser orbitals	HVDC	high voltage direct current
GPED	gas phase electron diffraction	HVEM	high voltage electron microscopy
GPIB	general purpose interface bus	HWLWR	heavy water moderated light water cooled reactor
GPM	ground potential model	HWR	heavy water reactor
GPS	Global Positioning System	HZP	Hot Zero Power
GQR	giant quadrupole resonance	I-V	current-voltage
GRIN	graded (gradient) refractive index	I/O	input/output
GSPC	gas scintillation proportional chamber (or counter)	I ² L	integrated injection logic
GTHTGR	gas turbine HTGR	I ³ L	isoplanar I ² L
GTO	gate turn-off or Gaussian-type orbitals	IAEA	International Atomic Energy Authority Agency
GUT	grand unified theory	IAR	isobaric analogue resonance
GVB	generalised valence bond	IAS	isobaric analogue state
HAM	hydrogenic atoms in molecules	IBA	interacting boson approximation
HBAB	hexyloxybenzylidene-p'-aminobenzo nitrile	IBFA	interacting boson-fermion approximation
HBT	N-(p-hexyloxybenzylidene)-p-toluidene	IBM	interacting boson model
HCDA	hypothetical core disruptive accident	IBPBAC	isobutyl-4-(4'-phenylbenzylidene-amino) cinnamate
		IC	integrated circuit
		ICDF	intermediate coupling Dirac-Fock

ICF	inertial confinement fusion	JINR	Joint Institute for Nuclear Research
ICP	inductively coupled plasma	JT-60	Japanese Tokamak-60
ICPP	Idaho Chemical Processing Plant	KdV	Korteweg-de Vries
ICRF	ion cyclotron range of frequencies	KEK	Japan National Laboratory for High Energy Physics
ICRH	ion cyclotron resonance heating	KKR	Korringa-Kohn-Rostoker
IDT	interdigital transducer	LAMPF	Los Alamos Meson Physics Facility
IEPA	independent electron pair approximation	LAN	local area network
IETS	inelastic electron tunnelling spectroscopy (oscopy)	LC	inductance-capacitance
IF	intermediate frequency	LCAO	linear combination of atomic orbitals
IFA	ionisation front accelerator	LCBO	linear combinations of (semi-localised) band orbitals
IGES	initial graphics exchange specification	LCD	liquid crystal display/device
IGFET	insulated gate field effect transistor	LCGO	linear combination of Gaussian orbitals
IGT	insulated gate transistor	LCP	Large Coil Program
IHEP	Institute of High Energy Physics	LCRO	linear combination of Rydberg orbitals
IIR	infinite impulse response	LCTF	Large Coil Test Facility
IKBS	intelligent knowledge-based system	LDD	lightly doped drain
IKO	Institute v. Kernph Ouder Amsterdam	LDPE	low density polyethylene
ILS	instrument landing system	LEAR	Low Energy Antiproton Ring
ILW	intermediate level (radioactive) waste	LEC	liquid encapsulated Czochralski
IMPATT	impact avalanche transit time	LED	light emitting diode
INDO	intermediate neglect of differential overlap	LEED	low energy electron diffraction
INDOR	internuclear double resonance	LEFD	Large Experimental Fusion Device
INEPT	insensitive nuclei enhanced by polarisation transfer	LEP	Large Electron Positron (CERN)
ING	intense neutron generator	LET	linear energy transfer
INO	iterative natural orbital	LEU	low enrichment uranium (10% U235)
INS	Information Network System or inertial navigation system	LEU/Th	low enrichment U/Th fuel
INTELSAT	international telecommunications satellite consortium	LF	low frequency
INTOR	International Tokamak Reactor	LHRH	lower hybrid resonance heating
IOC- ω	inclusion of the overlap charges in the omega	LIFO	last in first out
IPSS	international PSS	LIME	laser induced magnetically enhanced
IR	infrared	LLTR	Large Leak Test Rig
IRDO	intermediate retention of differential overlap	LLW	low level (radioactive) waste
IREB	intense relativistic electron beam	LMC	Large Magellanic Cloud
IREP	infrared emitting diode	LMFBR	liquid metal fast breeder reactor
IRS	information retrieval system	LMS	least mean square
ISABELLE	intersecting storage and acceleration	LMTD	linear combination of muffin tin orbitals
ISDN	integrated services digital network	LNG	liquified natural gas
ISFET	ion-sensitive field effect transistor	LOCA	loss of coolant accident
ISI	intersymbol interference	LOCE	loss of coolant experiment
ISL	integrated Schottky logic	LOCOS	local oxidation of silicon
ISO	International Standards Organization	LOF	loss of flow
ISR	intersecting storage ring	LOFT	Loss of Flow Test Facility
ISX	impurity study experiment	LOFW	loss of feed water
IT	information technology	LP	linear programming
ITC	ionic thermocurrents	LPC	linear predictive coding
ITEP	Institute of Theoretical and Experimental Physics	LPCVD	low pressure chemical vapour deposition
ITR	Ignition Test Reactor	LPE	liquid phase epitaxy
IU	Indiana University	LPFL	low pinch-off-voltage FET logic
IVO	improved virtual orbitals	LSA	limited space charge accumulation
JAERI	Japan Atomic Energy Research Institute	LSD	local spin density or loop shut-down
JET	Joint European Torus	LSI	large-scale integration
JFET	junction field effect transistor	LSPB	Large Scale Prototype Breeder
		LSTF	Large Scale Test Facility
		LTE	local thermodynamic equilibrium
		LUMO	lowest unoccupied molecular orbitals
		LV	low voltage

LWBR	light water breeder reactor	MOCIC	molecular orbital constraint of
LWHCR	light water high convertor reactor		interaction coordinates
LWR	light water reactor	MOCVD	metal-organic chemical vapour
			deposition
M1,M2	magnetic dipole, quadrupole	MODFET	modulation doped field effect
MADO	Mulliken approximation for		transistor
	differential overlap	MODPOT	model potential
MARS	Mirror Advanced Reactor Study	MOS	metal-oxide-semiconductor
MBBA	4-methoxybenzylidene-4'-n-	MOSFET	metal-oxide-semiconductor field
	butylaniline		effect transistor
MBE	molecular beam epitaxy	MOST	metal-oxide-semiconductor transistor
MBPT	many body perturbation theory	MOVPE	metal-organic vapour phase epitaxy
MCD	magnetic circular dichroism	MOX	mixed oxide fuel
MCFR	magnetic confinement fusion reactor	MPH	moving plasmoid heater
MCP	microchannel plate	MPSK	multiple phase shift keying
MCPESCF	multiconfiguration paired excitation	MQORC	modified quadrature overlapped
	SCF		raised cosine
MCSCF	multiconfiguration self-consistent	MQW	multiple quantum well
	field	MRAC	model reference adaptive control
MCVD	modified chemical vapour deposition	MRD	multi-reference double excitation
MCX α	multiconfiguration X α	MRINDO	modified Rydberg INDO
MCZDO	multi-centre zero differential overlap	MRP	materials requirements planning
MEC	molecular electron correlation(s)	MRP II	manufacturing resources planning
MEDO	multipole expansion of diatomic	MS	management science
	overlap	MSI	medium scale integration
MESFET	metal-semiconductor field effect	MSK	minimum shift keying
	transistor	MSR	molten salt reactor
MEU	medium enrichment uranium	MSSW	magnetostatic surface wave
	(20% U235)	MSU	Michigan State University
MEU/Th	medium enrichment U/Th fuel	MSW	magnetostatic waves
MF	medium frequency	MSX α	multiple scattering X alpha
MFP	mean free path	MTBF	mean-time between failures
MFR	mirror fusion reactor	MTF	modulation transfer function
MFSK	multiple frequency shift keying	MTI	moving target indicator
MFTF	Mirror Fusion Test Facility	MTL	merged-transistor logic
MHD	magnetohydrodynamics	MTTE	mean time to failure
MIC	microwave integrated circuit	MTX α	muffin-tin X α
MID	magnetically insulated diode	MUF	material unaccounted for or
MIDP	microwave induced delayed		maximum usable frequency
	phosphorescence	MWPC	multiwire proportional chamber
MIEHM	modified iterative extended Huckel		
	method	NAL	National Accelerator Laboratory
MIM	metal-insulator-metal	NAND	not-and(logic)
MIMD	multiple input multiple data	NBETF	Neutral Beam Engineering Test
MINDO	modified incomplete neglect of		Facility
	differential overlap	NBI	neutral beam injection
MIS	metal-insulator-semiconductor or	NBPS	neutral beam power systems
	management information system	NBS	National Bureau of Standards
MISFET	metal-insulator-semiconductor field	NC	numerical control
	effect transistor	NCBR	nitrite cooled breeder reactor
MIT	Massachusetts Institute of	NCMET	non-closed shell many electron
	Technology		theory
MITATT	mixed tunnelling avalanche transit	NDDO	neglect of diatomic differential
	time		overlap
MLC	multilayer ceramic	NDE	nondestructive evaluation
MLS	microwave landing system	NDRO	nondestructive readout
MLW	medium level (radioactive) waste	NDT	nondestructive testing
MM	millimetre	NEA	negative electron affinity
MMF	magnetomotive force	NEMO	non-empirical molecular orbitals
MMI	man machine interface	NET	Next European Tokamak
MMIC	monolithic microwave integrated	NEVE	non-empirical valence-electron
	circuit	NHS	National Health Service
MNOS	metal-nitride-oxide-semiconductor	NIC	negative impedance convertor
MO	molecular orbitals		

NMOS	N-channel metal-oxide-semiconductor	PCILOCC	perturbative configuration interaction using localised orbitals for crystal calculation
NMR	nuclear magnetic resonance	PCM	pulse code modulation
NMR-ON	NMR on oriented nuclei	PCRV	prestressed concrete reactor vessel
NNDO	neglect of non-neighbour differential overlap	PCV	primary containment vessel
NOR	not-or(logic)	PCX	plasma confinement experiment
NPL	National Physical Laboratory	PDE	partial differential equation
NQR	nuclear quadrupole resonance	PDX	Poloidal Divertor Experiment
NRC	Nuclear Regulatory Commission	PEM	photoelectromagnetic
NRM	natural remanent magnetisation	PEP	Positron Electron Proton (Stanford)
NSRR	Nuclear Safety Research Reactor	PET	polyethylene terephthalate
NSSS	nuclear steam supply system	PETRA	Positron Electron Tandem
NTL	nonthreshold logic		Ringbeschleuniger Anlage
NTO	natural transition orbitals	PF	poloidal field or power factor
NTSC	National TV Standards Committee	PFM	pulse frequency modulation
NWPA	Nuclear Waste Policy Act	PFR	Prototype Fast Reactor
		PHWR	pressurised heavy water reactor
OA	office automation	PID(PI,PD)	proportional+integral+differential (derivative)
OCR	optical character recognition	PIPECO	photoion photoelectron coincidence
ODE	ordinary differential equation	PIUS	process inherent ultimately safe
ODMR	optical detection of magnetic resonance	PIXE	proton induced X-ray emission
OEIC	optoelectronic integrated circuit	PLA	phase locked arrays or programmable logic array
OEM	original equipment manufacture		
OER	oxygen enhancement ratio	PLBR	Prototype Large Breeder Reactor
OH	ohmic heating	PLC	programmable logic control
OHTE	Ohmically Heated Toroidal Experiment	PLL	phase locked loops
OPHF	orbital polarised Hartree-Fock	PLT	Princeton Large Torus
OPW	orthogonal plane wave	PM	pulse modulation or phase modulation
OQPSK	offset quadrature phase shift keying	PMMA	polymethylmethacrylate
OR	operations research	PMDR	phosphorescence microwave double resonance
ORELA	Oak Ridge Electron Linear Accelerator	PMOS	P-channel metal-oxide-semiconductor
ORNL	Oak Ridge National Laboratory	PMR	proton magnetic resonance
OS	operating system	PND	partial neglect of differential overlap
OSI	open systems interconnection	PNO-CI	pair natural orbital configuration interaction
OTDR	optical time domain reflectometry		
OTEC	ocean thermal energy conversion	PNS	Pulsed Neutron Source
OTF	optical transfer function	POL	pair orthogonalised Lowdin
OTS	Orbital Test Satellite	POP	protons on protons and electrons
OTSG	once through steam generator	POP	phenyl-oxazoly-phenyl-oxazoly-phenyl
OZI	Okubo-Zweig-lizuka (quark model)		
		PORV	power operated relief valve
PAA	paraazoxyanisole	POS	point of sale
PABX	private automatic branch exchange	PPDP/S	Pariser-Parr-Del Bene-Pople/Segal calculations
PAC	perturbed angular correlation		
PAHR	post accident heat removal	PPI	plan position indicator
PAL	programmable array logic	PPM	pulse position modulation or parts per million
PAM	pulse amplitude modulation		
PAP	paraazoxyphenetole	PPP	Pariser-Parr-Pople
PBF	power bursts facility	PRA	probabilistic risk assessment
PBFA	Particle Beam Fusion Accelerator	PRDDO	partial retention of diatomic differential overlap
PBR	pebble bed reactor		
PBT	permeable base transistor	PREPP	Process Experimental Pilot Plant
PBX	private branch exchange	PRF	pulse recurrence (repetition) frequency
PC	printed circuit or personal computer or programmable controller	PROM	programmable read-only-memory or Pockels readout optical modulator
PCAC	partially conserved axial currents	PS	proton synchrotron (CERN)
PCB	printed circuit board	PSD	power shut-down or power spectral density
PCES	phase change energy storage		
PCGVB	pairwise correlated generalised valence bond		

PSDN	packet switched data network	RPAE	random phase approximation with exchange
PSK	phase shift keying	RPM	relaxation potential model or revolutions per minute
PSS	packet switching service or Packet SwitchStream	RPV	reactor pressure vessel
PSTN	public switched telephone network	RTG	radioisotope thermoelectric generators
PSU	power supply unit	RTL	resistor-transistor logic
PTFE	polytetrafluoroethylene	RTTY	radio teletypewriter
PTM	pulse time modulation		
PVC	polyvinyl chloride		
PVD	physical vapour deposition		
PWA	partial wave analysis		
PWB	printed wiring board	S/N	signal-to-noise
PWBA	plane wave Born approximation	SACCI	symmetry adapted cluster configuration interaction
PWIA	plane wave impulse approximation	SAINT	self-aligned implantation for N ⁺ -layer technology
PWM	pulse width modulation	SAMO	simulated ab initio molecular orbitals
PWR	pressurised water reactor	SAMOS	stacked gate avalanche injection metal-oxide-semiconductor
QA	quality assurance	SAN	small area network
QAM	quadrature amplitude modulation	SAR	synthetic aperture radar
QASK	quadrature amplitude shift keying	SAW	surface acoustic waves
QC	quality control	SAXS	small-angle X-ray scattering
QCD	quantum chromodynamics	SCC	stress corrosion cracking
QDMBPT	quasi-degenerate many-body perturbation theory	SCF	self-consistent field
QED	quantum electrodynamics	SCFL	source-coupled FET logic
QFSK	quadrature frequency shift keying	SCH	separate confinement heterostructure
QORC	quadrature overlapped raised cosine	SCL	space charge limited
QOSRC	quadrature overlapped squared raised cosine	SCPC	single channel per carrier
QPM	quark-parton model	SCPT	self-consistent perturbation theory
QPR	quadrature partial response	SCR	silicon controlled rectifier
QPSK	quaternary phase shift keying	SCTF	Slab Core Test Facility
		SDFL	Schottky-diode FET logic
R & D	research and development	SDLC	synchronous data link control
RAD	ribbon-against-drop	SDM	space division multiplexing
RAM	random access memory	SDMA	space division multiple access
RBE	relative biological effectiveness	SDO	shielded diatomic orbitals
RBS	Rutherford backscattering	SED	stochastic electrodynamics
RC	resistance-capacitance	SEHF	spin extended Hartree-Fock
RCIC	reactor core isolation cooling	SEM	scanning electron microscopy
RCNDO	Rydberg CNDO	SERS	surface enhanced Raman scattering
RCS	rapid cycling synchrotron or reactor coolant systems	SEXAFS	surface extended X-ray absorption fine structure
RCTL	resistor-capacitor-transistor logic	SFE	solar-flare effect
REA	rod ejection accident	SFL	substrate fed logic
RF	radio frequency	SGEMP	system generated electromagnetic pulse
RFI	radio frequency interference		
RFPR	reversed field pinch reactor	SGHWR	steam generating heavy water reactor
RFX	Reversed Field (Pinch) Experiment	SHF	superhigh frequency
RG	renormalisation group	SHG	second harmonic generation
RGB	red green blue	SICOS	sidewall base contact structure
RHEED	reflection high energy electron diffraction	SIL	single-in-line
		SIMD	single instruction multiple data
RHF	restricted Hartree-Fock	SIMOS	stacked-gate injection metal-oxide-semiconductor
RIA	reactivity initiated accident		
RIE	reactive ion etching	SIMOX	separation by implantation of oxygen
RINDO	Rydberg INDO	SIMS	secondary ion mass spectra (oscopy)
RISC	reduced instruction set computer	SIN	Swiss Institute of Nuclear Research
RKKY	Rudermann-Kittel-Kasuya-Yosida	SINDO	scaled INDO
RLC	resistance-inductance-capacitance	SIPOS	semi-insulating polycrystalline silicon
RMS	root-mean-square	SIS	semiconductor-insulator-semiconductor
RNA	ribonucleic acid		
ROM	read-only memory	SISAM	spectrometer with interference
RPA	random phase approximation		selective amplitude modulation

SIT	static induction transistor	SURMAC	surface magnetic confinement
SLC	Stanford Linear Collider	SUSY GUT	supersymmetric grand unified theory
SLIC	subscriber line interface circuit	SW	short wave
SLSF	Sodium Loop Safety Facility	SWEPP	Stored Waste Examination Pilot Plant
SMA	surface mount(ed) assembly	SWR	sodium water reactor or standing wave ratio
SMC	Small Magellanic Cloud or surface mount(ed) component	SXAPS	soft X-ray appearance potential spectra(oscopy)
SMD	surface mount(ed) device		
SMES	superconductive magnetic energy storage	TAB	tape automated bonding
SMQORC	staggered modified quadrature overlapped raised cosine	TASI	time assignment speech interpolation
SMT	surface mount(ed) technology	TAT	transatlantic telephone cable
SNA	Systems Network Architecture	TBBA	terephthal-butylaniline
SNM	special nuclear material	TCNE	tetracyanoethylene
SNR	signal to noise ratio or supernova remnant	TCNQ	tetracyanoquinodimethane
SNS	superconducting normal superconducting or Spallation Neutron Source	TCR	temperature coefficient of resistance
		TCXO	temperature compensated crystal oscillator
		TDHF	time-dependent Hartree-Fock
SOG	strongly orthogonal geminal	TDF	Technology Demonstration Facility or transborder data flow
SOI	silicon on insulator	TDM	time division multiplex(ing)
SOS	silicon on sapphire	TDMA	time division multiple access
SPA	separated pair approximation	TDMF	time dependent mean field theory
SPC	stored program control	TDPAC	time differential perturbed angular correlation
SPCP	single parity check product (code)		
SPEAR	Stanford Positron Electron Asymmetric Ring	TDS	thermal desorption spectra(oscopy)
SPHF	spin polarised Hartree-Fock	TE	transverse electric
SPS	Super Proton Synchrotron (CERN)	TEA	transversely excited atmosphere
SQAM	superposed quadrature amplitude modulation	TEGFET	two-dimensional electron gas field effect transistor
SQPR	staggered quadrature partial response	TEM	transverse electromagnetic or transmission electron microscopy
SQPSK	staggered quadrature phase shift keying	TEXT	Texas Experimental Tokamak
SQUID	superconducting quantum interference device	TF	toroidal field
		TFCX	Toroidal Fusion Core Experiment
SRAM	static random access memory	TFT	thin film transistor
SREMP	source region electromagnetic pulse	TFTR	Tokamak Fusion Test Reactor
SRMCASE	symmetry-restricted-multiconfiguration annihilation of single excitations	TGA	thermogravimetric analysis
		TGFB	triglycine fluoroberyllate
		TGS	triglycine sulphate
SRV	safety release valve	TGSe	triglycine selenate
SS-TDMA	satellite switched time division multiple access	THORS	Thermal-Hydraulic Out-of-Reactor Safety Facility
SSB	single sideband	THTF	Thermal Hydraulic Test Facility
SSBW	surface skimming bulk wave	TJS	transverse junction stripe
SSC	sudden storm commencement or Superconducting Super Collider	TLD	thermoluminescent dosimeter(-ry)
SSCR	spectrum shift controlled reactor	TM	transverse magnetic
SSFL	Schottky-barrier coupled Schottky-barrier gate FET logic	TMC	Test Module Coil
SSI	small scale integration	TMHR	tandem mirror hybrid reactor
SSMA	spread spectrum multiple access	TMI	Three Mile Island
SST	supersonic transport	TMMC	tetramethylammonium manganese chloride
STD	salinity-temperature-depth or subscriber trunk dialling		
STEC	solar thermal energy conversion	TMR	tandem mirror reactor
STEM	scanning transmission electron microscopy	TMTSeF	tetramethyltetraselenafulvalene (-inium)
STL	Schottky transistor logic	TMTTF	tetramethyltetrathiofulvalene(-inium)
STO	Slater-type orbitals	TMX-U	Tandem Mirror Experiment-Upgrade
STOL	short take-off and landing	TNS	The Next Step
STP	Slater-transfer Preuss	TOF	time-of-flight
		TOP	transient overpower accident
		TPC	time projection chamber
		TPD	temperature programmed desorption
		TPTF	Two-Phase Flow Test Facility

TRAPATT	trapped plasma avalanche triggered transit	VCR	video cassette recorder
TREAT	Transient Reactor Test Facility	VDM	vector dominance model
TRM	thermoremanent magnetisation	VDT	visual display terminal
TRRR (TR ³)	time resolved resonant Raman (spectra (-oscopy))	VDU	visual display unit
TRU	transuranic (waste)	VDW	van der Waals
TSC	thermally stimulated currents	VFO	variable frequency oscillator
TSD	thermally stimulated desorption	VHF	very high frequency
TSEE	thermally stimulated exo-electron emission	VHSIC	very high speed integrated circuit
TSIC	thermally stimulated ionic currents	VJFET	vertical junction field effect transistor
TSTA	Tritium Systems Test Facility	VLBI	very long base line interferometry
TSeF	tetraselenafulvalene(-inium)	VLf	very low frequency
TSeT	tetraselenatetracene	VLSI	very large scale integration
TTf	tetrathiofulvalene(-inium)	VM	virtual machine
TTL	transistor transistor logic	VMOS	vertical channel metal-oxide-semiconductor
TTMP	transit time magnetic pumping	VOR	VHF omnidirectional range
TTT	tetrathiotetracene	VPE	vapour phase epitaxy
TUCA	transient undercooling accident	VRC	visual record computer
TUCOP	transient undercooled overpower accident	VRDDO	variable retention of diatomic differential
TV	television	VS	virtual storage
TVRO	TV receive only	VSB	vestigial sideband
TW	travelling wave	VSEPR	valence shell electron pair repulsion
TWT	travelling wave tube	VSWR	voltage standing wave ratio
		VTOL	vertical take-off and landing
		VTR	voltage transformation ratio or video tape recorder
UART	universal asynchronous receiver transmitter	VUV	vacuum ultraviolet
UCHF	uncoupled Hartree-Fock	VVER	water moderated water cooled reactors
UCN	ultra cold neutrons	VVVF	variable voltage variable frequency
UHF	ultra high frequency or unrestricted Hartree-Fock		
UHPS	underground hydroelectric pumped storage	WAN	wide area network
UHV	ultra high voltage	WARC	World Administrative Radio Conference
UJT	unijunction transistor	WAXS	wide-angle X-ray scattering
UKAEA	United Kingdom Atomic Energy Authority	WDM	wavelength division multiplex(ing)
ULA	uncommitted logic array	WIPP	Waste Isolation Pilot Plant
ULF	ultra low frequency	WKB	Wentzel-Kramers-Brillouin
ULSI	ultra-large scale integration	WP	word processing
UMD	unitised microwave devices	WWER	water moderated water cooled reactors
UPS	ultraviolet photoelectron spectra(oscopy) or uninterruptible power supply		
US	ultrasonic	XANES	X-ray absorption near edge structure
USART	universal synchronous/asynchronous receiver transmitter	XLPE	cross-linked polyethylene
UUT	unit under test	XOR	exclusive-OR
UV	ultraviolet	XPD	cross-polarisation discrimination
		XPS	X-ray photoelectron spectra(oscopy)
		XUV	X-ray-ultraviolet
VAD	vapour phase axial deposition	ZEBRA	Zero Energy Breeder Reactor Assembly
VAN(S)	value added network (services)	ZGS	zero gradient synchrotron
VB	valence bond	ZPPR	zero power plutonium reactor
VCO	voltage controlled oscillator	ZTP	Z toroidal pinch

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magnetic birefringence *see magneto-optical effects*

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see also ammonia; ammonium compounds

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nuclear reactions and scattering

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semiconductor electron states see band structure of crystalline semiconductors and insulators; electron energy states of amorphous solids; electron energy states of liquid semiconductors

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spectacles see lenses; sensory aids

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terrestrial atmosphere

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xerography see *electrophotography; reproduction (copying)*

xeroradiography see *electrophotography*

Xi a calculations see *Xalpha calculations*

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Yagi antennas see *antenna arrays*

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yield point

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